

AMENDMENTS TO THE CLAIMS:

Please cancel without prejudice claims 6-8, 11, 25-27, 30, 44-46 and 49 and amend claims 1, 9, 10, 12-16, 20, 28, 32-35, 39, 47 and 51-54 as follows.

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (currently amended) A method of setting a value of a performance controlling parameter of a data processing apparatus operable to perform a processing operation upon at least one data block of an input data stream comprising a plurality of data blocks, said method comprising:

performing an initial processing stage of said processing operation on said at least one data block;

deriving from at least one result of said initial processing stage a complexity measure indicative of an amount of data processing required to perform at least one further processing stage of said processing operation upon said at least one data block;

setting said performance controlling parameter to a predicted value in dependence upon said complexity measure; and

performing said at least one further processing stage upon said at least one data block subject to said predicted value of said performance controlling parameter, wherein at least one of said plurality of data blocks of said input data stream comprises one of an image field or an image frame, and said complexity measure is derived from one or more features of an image rendering display list generated by a deferred rendering graphics processor, for said one of an image field or an image frame, and wherein said one or more features used to derive said

complexity measure comprises a count of constituent image items in said image rendering display list.

2. (original) A method as claimed in claim 1, wherein said performance controlling parameter is at least one of a processor frequency and a processor operating voltage of said data processing apparatus.

3. (original) A method as claimed in claim 1, wherein said complexity measure is also derived in dependence upon a result of a processing operation performed on at least one preceding data block of said input data stream.

4. (original) A method as claimed in claim 3, wherein said result of said processing operation on said preceding data block is a processing time.

5. (original) A method as claimed in claim 4, wherein said complexity measure is scaled in dependence upon said result of said processing operation on said preceding data block to derive a value for said performance controlling parameter.

6. (cancelled).

7. (cancelled).

8. (cancelled).

9. (currently amended) A method as claimed in claim 8~~1~~, wherein said constituent image items are three dimensional graphics image elements.

10. (currently amended) A method as claimed in claim 8~~1~~, wherein said performance controlling parameter is at least one of a processor frequency and a processor operating voltage of a graphics co-processor.

11. (cancelled).

12. (currently amended) A method according to claim 7~~1~~, wherein said one or more features used to derive said complexity measure include texture formats associated with said constituent image elements.

13. (currently amended) A method according to claim 7~~1~~, wherein said one or more features used to derive said complexity measure comprises a screen resolution associated with said one of an image field ~~and/or~~ an image frame.

14. (currently amended) A method according to claim 7~~1~~, wherein ~~said one or more features used to derive said complexity measure comprises an estimator based on~~ is calculated in dependence upon those ones of a group of graphics processing features that are enabled for said image field or frame.

15. (currently amended) A method according to claim 6~~1~~, wherein said performance controlling parameter is set by estimating a number of memory accesses per said one of an image field ~~and~~or an image frame in view of said derived complexity measure.

16. (currently amended) A method as claimed in claim 6~~1~~, wherein said one of an image field and an image frame is MPEG encoded and said complexity measure is a number of motion vectors required to decode said one of an image field ~~and~~or an image frame.

17. (original) A method as claimed in claim 1, wherein said predicted value of said performance controlling parameter is selected from a predetermined range of parameter values.

18. (original) A method as claimed in claim 17, wherein said predicted value of said performance controlling parameter is set in dependence upon at least one of a target processing time and a target power consumption level.

19. (original) A method as claimed in claim 18, wherein when at least one of said target processing time and said target power consumption level cannot be met by setting said predicted value to be in said predetermined range, one or more inessential processing functions associated with said processing operation are disabled.

20. (currently amended) A computer program product ~~bearing a computer~~
~~program~~comprising a computer readable storage medium containing computer readable
instructions for setting a value of a performance controlling parameter of a data processing

apparatus operable to perform a processing operation upon at least one data block of an input data stream comprising a plurality of data blocks, said computer program comprising:

initial processing code operable to an initial processing stage of said processing operation on said at least one data block;

complexity measure deriving code operable to derive from at least one result of said initial processing stage a complexity measure indicative of an amount of data processing required to perform at least one further processing stage of said processing operation upon said at least one data block;

performance setting code operable to set said performance controlling parameter to a predicted value in dependence upon said complexity measure; and

further processing code operable to perform said at least one further processing stage upon said at least one data block subject to said predicted value of said performance controlling parameter, wherein at least one of said plurality of data blocks of said input data stream comprises one of an image field or an image frame, and said complexity measure deriving code is operable to derive said complexity measure from one or more features of an image rendering display list generated by a deferred rendering graphics processor, for said one of an image field or an image frame, and wherein said one or more features used by said complexity measure deriving code to derive said complexity measure comprises a count of constituent image items in said image rendering display list.

21. (original) A computer program product as claimed in claim 20, wherein said performance controlling parameter set by said performance setting code is at least one of a processor frequency and a processor operating voltage of said data processing apparatus.

22. (original) A computer program product as claimed in claim 20, wherein said complexity measure deriving code is operable to derive said complexity in dependence upon a result of a processing operation performed on at least one preceding data block of said input data stream.

23. (original) A computer program product as claimed in claim 22, wherein said result of said processing operation on said preceding data block used by said complexity measure deriving code to derive said complexity measure is a processing time.

24. (original) A computer program product as claimed in claim 23, wherein said complexity measure deriving code is operable to scale said complexity measure in dependence upon said result of said processing operation on said preceding data block to derive a value for said performance controlling parameter.

25. (cancelled).

26. (cancelled).

27. (cancelled).

28. (currently amended) A computer program product as claimed in claim ~~27~~20, wherein said constituent image items are three dimensional graphics image elements.

29. (original) A computer program product as claimed in claim 20, wherein said performance controlling parameter set by said performance setting code is at least one of a processor frequency and a processor operating voltage of a graphics co-processor.

30. (cancelled).

31. (original) A computer program product as claimed in claim 20, wherein said one or more features used to derive said complexity measure include texture formats associated with said constituent image elements.

32. (currently amended) A computer program product as claimed in claim ~~26~~20, wherein said one or more features used by said complexity measure deriving code to derive said complexity measure comprises a screen resolution associated with said one of an image field ~~and~~or an image frame.

33. (currently amended) A computer program product as claimed in claim ~~26~~20, wherein ~~said one or more features used by said complexity measure deriving code to derive said complexity measure comprises an estimator based on~~complexity measure is calculated in dependence upon those ones of a group of graphics processing features that are enabled for said image field or frame.

34. (currently amended) A computer program product as claimed in claim ~~26~~20, wherein said performance setting code is operable to set said performance controlling parameter by estimating a number of memory accesses per said one of an image field ~~and~~or an image frame in view of said derived complexity measure.

35. (currently amended) A computer program product as claimed in claim ~~26~~20, wherein said one of an image field and an image frame is MPEG encoded and said complexity measure is a number of motion vectors required to decode said one of an image field ~~and~~or an image frame.

36. (original) A computer program product as claimed in claims 20, wherein said performance setting code is operable to select said predicted value is selected from a predetermined range of parameter values.

37. (original) A computer program product as claimed in claim 36, wherein said predicted value is set in dependence upon at least one of a target processing time and a target power consumption level.

38. (original) A computer program product as claimed in claim 37, wherein when at least one of said target processing time and said target power consumption level cannot be met by setting said predicted value to be in said predetermined range, one or more inessential processing functions associated with said processing operation are disabled.

39. (currently amended) A data processing apparatus operable to set a value of a performance controlling parameter of a data processing apparatus operable to perform a processing operation upon at least one data block of an input data stream comprising a plurality of data blocks, said apparatus comprising:

initial processing logic operable to an initial processing stage of said processing operation on said at least one data block;

complexity measure deriving logic operable to derive from at least one result of said initial processing stage a complexity measure indicative of an amount of data processing required to perform at least one further processing stage of said processing operation upon said at least one data block;

performance setting logic operable to set said performance controlling parameter to a predicted value in dependence upon said complexity measure; and

further processing logic operable to perform said at least one further processing stage upon said at least one data block subject to said predicted value of said performance controlling parameter, wherein at least one of said plurality of data blocks of said input data stream comprises one of an image field or an image frame, and said complexity measure deriving logic is operable to derive said complexity measure from one or more features of an image rendering display list generated by a deferred rendering graphics processor, for said one of an image field or an image frame, and wherein said one or more features used by said complexity measure deriving logic to derive said complexity measure comprises a count of constituent image items in said image rendering display list.

40. (original) A data processing apparatus as claimed in claim 39, wherein said performance controlling parameter set by said performance setting logic is at least one of a processor frequency and a processor operating voltage of said data processing apparatus.

41. (original) A data processing apparatus as claimed in claim 39, wherein said complexity measure deriving logic is operable to derive said complexity in dependence upon a result of a processing operation performed on at least one preceding data block of said input data stream.

42. (original) A data processing apparatus as claimed in claim 41, wherein said result of said processing operation on said preceding data block used by said complexity measure deriving logic to derive said complexity measure is a processing time.

43. (original) A data processing apparatus as claimed in claim 42, wherein said complexity measure deriving logic is operable to scale said complexity measure in dependence upon said result of said processing operation on said preceding data block to derive a value for said performance controlling parameter.

44. (cancelled).

45. (cancelled).

46. (cancelled).

47. (currently amended) A data processing apparatus as claimed in claim 4639, wherein said constituent image items are three dimensional graphics image elements.

48. (original) A data processing apparatus as claimed in claim 39, wherein said performance controlling parameter set by said performance setting logic is at least one of a processor frequency and a processor operating voltage of a graphics co-processor.

49. (cancelled).

50. (original) A data processing apparatus as claimed in claim 39, wherein said one or more features used to derive said complexity measure include texture formats associated with said constituent image elements.

51. (currently amended) A data processing apparatus as claimed in claim 4539, wherein said one or more features used by said complexity measure deriving logic to derive said complexity measure comprises a screen resolution associated with said one of an image field and/or an image frame.

52. (currently amended) A data processing apparatus as claimed in claim 4539, wherein ~~said one or more features used by said complexity measure deriving logic to derive said complexity measure comprises an estimator based on~~complexity measure is calculated in

dependence upon those ones of a group of graphics processing features that are enabled for said image field or frame.

53. (currently amended) A data processing apparatus as claimed in claim 4539, wherein said performance setting logic is operable to set said performance controlling parameter by estimating a number of memory accesses per said one of an image field ~~and~~or an image frame in view of said derived complexity measure.

54. (currently amended) A data processing apparatus as claimed in claim 4539, wherein said one of an image field and an image frame is MPEG encoded and said complexity measure is a number of motion vectors required to decode said one of an image field ~~and~~or an image frame.

55. (original) A data processing apparatus as claimed in claim 39, wherein said performance setting logic is operable to select said predicted value of said performance controlling parameter from a predetermined range of parameter values.

56. (original) A data processing apparatus as claimed in claim 55, wherein said predicted value is set in dependence upon at least one of a target processing time and a target power consumption level.

57. (original) A data processing apparatus as claimed in claim 56, wherein when at least one of said target processing time and said target power consumption level cannot be met by

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setting said predicted value to be in said predetermined range, one or more inessential processing functions associated with said processing operation are disabled.